

# 432 MHz AND ABOVE EME NEWS

FEBRUARY 2000 VOL 29 #02

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## EME NETS

**14.345, 10 AM ET SATURDAYS, AFTER VARO NET SUNDAYS:**

- NET CONTL: JOE, K1RQG (207-469-3492), E-MAIL: [Joe, K1RQG](#)
- EME STANDINGS: JIM STARKEY, W0KJY, 3845 CAPITOL DRIVE,  
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## 432 MHz AND ABOVE CHAT line

## 432 AND ABOVE PHOTOGALLERIES

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# CONDITIONS

The Jan SW was not spectacular but did produce a number of initials as documented in the following reports. Activity was much better than in Dec and quite reasonable considering that this SW is located time wise midway between the two major EME contests. Activity was also divided by 2 near equal EME weekends and a NA VHF contest on the off weekend, which attracted considerable EME interest.

## EME SSB CONTEST

If you can operate 1296 EME, whether you can operate SSB or not, you will want to participate in the EME SSB Contest. Last year's contest was won by OE9XXI. It really does not matter who wins as this contest is meant to be a fun event.

Although those "big gun" signals do help! This year the SSB contest is scheduled for the 2nd moon pass of the 12/13 Feb SW, on 1296 only. The contest starts at local moonrise on Saturday 12 Feb, (This is the 2nd moonrise of the SW referenced to Eur, the 1st starts on Friday afternoon local time in most places), and ends on the following moonset on Sunday 13 Feb. Scoring will be contact points times number of Grid Sectors (IO, JM, FN, ...). SSB to SSB contacts will count as 2 points. SSB to CW (or CW to SSB) 1 point. The exchange is your Grid Sector. Operation may be by single or multiple operators. No distinction for scoring will be made. CW only stations are encouraged to participate.

### AL7OB

Mike writes -- Not too bad a year for my 1st on EME. I am up to initial #43 on 432. I have a website now too, and have my 30' dish project on it. Check it out at <http://www.customcpu.com/al7ob>. Back in Dec, I found the pre SW better than the SW and worked during it NC1I, WE2Y, WA4NJP, W7GBI, K5WXN, W7SZ and K0RZ for 7 initials. During the Dec SW, my Sked with DK3WG was nil, I heard UA9FAD (O) copy but he didn't hear me, and worked JA4BLC. I also QSO'd JA5OVU (439/549) and VK4AFL right at the horizon on random. In the Jan SW my skeds results were 0100 QSO VE6TA, 0130 nil N3FA, 0200 QSO KB8ZW, 0300 partial WB0GGM - didn't hear him but he heard me, 0330 nil W8MQW, 0400 K6JEY - missed sked and 0500 nil KA0RYT. I also worked on random G4ERG and JA6AHB.

### **DJ9YW**

Heinrich reports on his 1st 23 cm EME contacts in Y2K -- I worked on 15 Jan at 2000 **IK2MMB** for initial #110 and **W1QC** #111 on random, on 16 Jan **SV1OE** #112 and **WA4OFS** #113, and on 20 Jan **W7QX** #114. I am able to receive stations above 50 kW ERP circular. The QSO with W7QX was only possible on a low loss day (0.1 dB perigee). I am searching for stations in following US states, which are QRV on 23 cm or planning to be in the near future: AL, AR, CO, DE, IA, ID, IL, IN, KS, KY, LA, NV, ME, MN, MO, MT, OR, RI, SC, SD, UT, WV. [Many of these states currently have stations that are QRV.] Please respond via Fax: 0049-5155- 983256 or e-mail:

#### **Heinrich, DJ9YW**

I still waiting for QSLs from **DJ7FJ**, **SM5DGX**, **W0KJY** and **WA4NJP**.

### **DL8OBU**

Juergen was active during the Jan SW on 432 and QSO'd on 15 Jan **JA6AHB** (559/549) on random and **VE6TA** (O/O) for initial #111, and on 16 Jan **VK4AFL** (549/439) #112 on random. He is still waiting for the QSLs from **KA0RYT/0** and **W7ALW**. Juergen asks if there are any stations from SA actually QRV on 70 cm EME? [Sure, **PY5ZBU**.] He can be reached by e-mail to

#### **Juergen, DL8OBU**

or by telephone to +49-5132-94100 (the best time 1800z-2100z).

### **G3LTF**

Peter writes -- I was just on 1296 for a while last weekend, but managed to pick up 2 new ones. I worked on 15 Jan between 2200 and 2311 **W2UHI**, **IK2MMB** for initial #151, **G4DZU**, **W1ZX** #152 and **OE9ERC** – heard were **KB2AH**, **PA3CSG**, **K3HZO** and **SM3AKW**, and on 16 Jan between 1930 and 2230 **GW3XYW**, **HB9SV**, **ZS6AXT** and **K5JL** -- heard were **DF3RU** and **DJ5MN**.

### **G4CCH**

Howard updates us on his status -- I have not been active since Dec 98 ... it seems like a lifetime. I have not lost interest, but have been very busy with building work around the house and making some real headway with the dish project that I started way back in 1989. (I wrote the date on the jig for the rib sections). My old 8' dish was in a very poor state and the reflector was a very small pile of rust when I finally took it down last weekend. Also, my eldest son (20) Kerry, who is studying at Leeds University, has had problems with his kidneys this year. They finally failed in Sept, just after starting the 1st semester of his 2nd year. He is now on Haemo dialysis and waiting for a transplant. As you can imagine, this has been very traumatic for all the family here, and we are still coming to terms with

this situation and what his future may hold. He is a very determined lad and has returned to University now, so we are a little more settled. The dish structure is built and up on the mount, the next step is to sort out the feed support and weatherproofing, then put the reflector on the dish. The new dish is 5.4 m dia and is mounted on a tilt over tower section 4 m high. I am also replacing my old CBM 64 based tracking system with F1EHN's PC software and VE1ALQ's interface boards, so I should be able to hit the moon when I get it going. For more information on my dish project visit my web site at:

#### Howard, G4CCH

I am adding pictures and information as the project progresses, so if you are interested keep checking in. I hope to start testing in March. Expect to hear a louder signal from me in the REF Contest, if all goes as planned.

#### **HB9SUL**

Andrea is trying harder to be QRV again -- I am setting up my station as HB9MS from the southern part of HB9. This is not an easy task since I have very limited time and room as well. My planned dxpedition to TA was a major disappointment. I will never ask for support for any anymore. Promised support never materialized - in Italy they say that if you do something alone, you do as for tree people. I hope to be QRV on 70 cm soon.

#### **IK2MMB**

Sergio's 1st 2000 report -- The Jan 2000 SW weekend (15/16 Jan) was great. From my perspective it was like a sort of a contest. I worked some 17 stations on 1296. QSO'd were **GW3XYW** for initial #21, **DF4PV** #22, **DJ9YW** #23, **SM3AKW** #24, **KD5IUV** #25, **SM2CEW** #26, **OE9ERC**, **PA3CSG** #27, **G3LTF** #28, **K4QI** #29, **K5JL**, **HB9SV**, **OZ6OL**, **OZ4MM**, **DF3RU** #30, **F5PL** #31 and **W2UHI** #32. All were worked on random except SM3AKW, which was a light-speed sked that lasted perhaps a bit more than a minute - great fun and very solid copy. Despite the fun, condx were not optimal. Echoes were permanently weak and libration heavy. I even checked out the whole station at a certain time because I suspected some failure, but everything was ok. A couple of skeds did go bad. Nil was copied from W1ZX nor K9BCT. I am looking forward to trying again with both these stations. I was 'hunting' and hoping for some JA stations but only nil. I did hear IK6EIW in QSO with OE9ERC, and tried to hook up with him when ERC was done, but nil. I am available for skeds any day from 1700 till 0100, if moon is on sight and I'm not on a business trip. Send proposals to:

#### Sergio, IK2MMB

#### **JA6AHB**

Toshio's 432 EME result for Jan -- I worked on 15 Jan WE2Y for initial #71, VK4AFL, W7SZ, AL7OB, PA3CSG #72, JA4BLC, DL8OBU, OH2DG (on sked), HB9SV #73, I5CTE #74, YO2IS (on sked) #75, SM3AKW and G3HUL – heard were PA0AVS, DJ6MB, DL9NDD, SM2CEW and DL1YMK, and on 22 Jan VK4AFL, OE3JPC, I5CTE, G4ERG and RA3LE.

### **K1FO**

Steve did not have a very productive month in Dec. A cold snap set in just before the activity weekend and Steve's prop- pitch azimuth rotor froze up. At 1st he thought it may have been just the oil leaking through the motor shaft seal onto the motor brushes. But the return of the cold weather in early Jan froze the prop pitch up again, so after many years of use it looks like water has gotten in his prop pitch. Steve QSO'd in Dec on 432, on 19 Dec W7CNK, on 22 Dec W9ZIH (549/539) for initial #563, on 23 Dec W7AZ and G4ALH. W9ZIH is a horizon only station in EN51 with 4 RIW 19 yagis and an 8938. Ron has a real big signal and must be getting some pretty good ground reflection gain. Steve was looking forward to the Jan SW and the friendlier operating hours. He just hopes that the weather is not real cold.

### **K6JYE**

Doug worked DF3RU, DK9KR and HB9SV on 432 during the Jan SW. All had nice signals. Unfortunately his UTC calculations were off by an hour in the evening, so his 0300-0430 skeds were at the wrong time! He sends his apologies to anyone, if he was in their way. Doug has put up a new array of 4 x FO-25 yagis to replace the RIWs he had been using. Doug had the new array in operation for the post SW, but made no QSOs. He suspects Aurora may have been culprit.

### **KJ7F**

Terry is now QRV on 70 cm EME. During the ARRL's Jan VHF Contest he QSO'd on 432 K1FO, DL9KR and N9AB. Later Terry added G4ERG. He is interested in skeds and can be reached by e-mail at:

[Terry, KJ7F](#)

### **OZ4MM**

Stig was QRV for the Jan SW -- I spent Saturday on 432 and worked HB9SV (569/569), PA0AVS (559/539) #194, UA3PTW (O/559), K2UYH (569/579), K0RZ (559/559), WE2Y (O/559), G3HUL (429/549) and DL1YMK (439/559). When working DL1YMK another station was sending reports? On Sunday I switched to 1296 and worked OH2DG (559/569), OE9ERC (589/579) and finally IK2MMB (559/579). The following weekend in the US contest I worked on 1296 W5ORH (579/579) [same as K5JL], WA9FWD (549/549), W1QC (559/559) for initial #160 and WA8WZG (539/559). I am open for skeds if anyone need me. I am still using a 10 m dish, dual dipole and IMU feeds, 950 W on 432, 500 W on 1296 and 150 W

on 2304 MHz in the shack followed by 50 m of 1 5/8" feedline.

#### **PA0PLY**

Jan sends info on his "mini" station for 432 -- I am expanding my present my 4 yagi array as 2 wl yagis were just too small for effective EME. Actually the array will also be used for tropo contesting and is designed to provide a wide AZ beamwidth and more gain. My new setup will be 8 x 4.2 wl yagis derived from a DL6WU design, but with very good front/back ratio. I have also constructed a new pre-amp with an FHX35 that gives much better NF then the current MFG1502 (0.5 dB NF). My RF power has also been increased to 1 kW, but I still need to replace my TX cable with LDF 4 line. Concerning the 23 cm BV project, progresses is very slow as the local people are really unfamiliar with EME communication. During my last visit in Dec, I learned that there is some interest in 144 EME in BV, but unfortunately my 432 group knew no details. Can anyone supply me with information on a BV 2 m EME group – possibly an e-mail or www address? I visited ZS6AXT last year and have some nice pictures of his antennas.

#### **UR5LX**

Sergey is not presently QRV. His big dish is down and he is looking for a new dish to use on both 432 and 1296. He has a 2.5 m dish from TV SAT use, but says this is too small for a "BIG GUN"! He hopes to be back on EME soon. Sergey can be reached by e-mail to:

[Sergey, UR5LX](#)

#### **VE1ALQ**

Darrell has recently renovated his WEB site and EME software center -- In an effort to insure the quality of available operating software, I completely cleaned up my WEB Site at:

[Darrell, VE1AVQ's WEB site](#)

and reloaded all files. I added a pointer from the front page to the Encoder/inclinometer FAQ (frequently asked questions) that are starting to surface again. I have downloaded and checked all software packages. There appears to be no problem with any on a Pentium 450 MHz machine, but who knows? [Darrell is frozen up and had to cancel all his Jan skeds.]

#### **W1ZX**

Willie was on 23 cm during the SW and the following US VHF Contest weekend. He QSO'd on 15 Jan at 2108 **K4QI (559/559)** for initial #24, 2122 **PA3CSG (559/559)** #25, 2218 **SM2CEW (559/559)** #26, 2228 **KB2AH (579/569)**, 2304 **G3LTF (449/559)** #27, 2324 **OE9ERC (569/559)**, 2330 **W7QX (O/O)** #28 and 2332

**KD5IUV (569/569), and on 23 Jan at 0402 SM2AKW (559/559) #29, 0415 OH6AXH (559/O) #30, 0430 WA8WZG (O/O) #31, 0452 K4QI (O/O) and 0505 W5ORH (559/559) – same as K5JL.** Willie has finally got his tracking working by getting the water out the encoder and using a new disk in encoder. Willie will see you on 1296 off the moon during February SW. Those looking for skeds with W1ZX on 23 cm or 70 cm should check into the 20 m net or e-mail to:BR>

**Willy, W1ZX**

**W5LUA**

Al worked **I0UGB** and **IK2MMB** on 23 cm for new initials on 26 Dec, but misses his sked with JF3HUC due to being in the hospital, while his daughter gave birth to a 2nd grandson of 5 lb 7 oz. All OK and both are now home.

**W7QX**

Jerry had good contacts with **W7SZ** and **DJ9YM** on 1296 in Jan. This brings him to initial #19 on 23 cm. W1QC was also heard with a good signal. The new power supply for his PA is also now completed.

**W7SZ**

Larry was active on both 70 and 23 cm in Jan. On 70 cm he worked **G4ERG** for an initial (#), **SM3AKW** #, **HB9SV** #, **KB8ZW** #, **EA3DXU** #, **DL8OBU** #, **DL9NDD**, **JA6AHB** and **N2IQU**. On 23 cm he QSO'd **K4QI**, **K5JL**, **OE9ERC** and **OZ6OL** for an initial (#). He is looking for skeds.

**WA5THJ**

Byron is looking for help -- I have a coaxial cavity amp made by the Microwave Control Co. of Brick, NJ. This amp is marked for 470-860 MHz. The tetrode it uses is not marked, but by measurements it appears that it is a TH347. The amp has a 7/8" EIA flange output connector. Does anyone have knowledge of this amp or the MCC? The model # is BIDEH. Could this cavity be related to the TH327 cavity mentioned in the newsletter by K5JL?

**WA8WZG**

Tom set up a team that included N2CEI, W5ZN, W5LUA, N5QGH, K1WHS and WA8RJF to operate the ARRL's Jan VHF Contest from Northern Ohio (EN81). Besides trop, they also operated EME on 70 through 13 cm. I do not yet have a report of their results, but I do know that they did make a number of EME QSOs.

**WB0GGM**

John had the following results in his Jan skeds: **RW1AW** - only (T) copy, **DJ3FI** (M), **EA3DXU** (M), nil CT1DMK, nil OK1KIR, SM3AKW very loud but transmitted only part of the time, **LX1DB** good QSO, W7SZ (O) but

disappeared, and partial CT1DMK heard but not completed because of loss of the moon at CT1DMK.

#### WE2Y

John found condx good on 432 in Jan and worked during the SW **N2IQU, K4AR and JA6AHB**. His sked with UT3LL was cancelled due to bad WX. During the post SW he had a partial with CT1DMK due to effect of aurora. He did work directly via the aurora NC1I and WA8WZG. John asks if aurora is polarization sensitive. [I suspect the answer is yes.]

#### ZS6AXT

Ivo's reports for the Jan and Dec SWs follow -- We had very heavy rains (and max. temp of 15 deg C as we are in the middle of our summer), since the Wednesday prior to the Jan SW. My AZ indicator was full of water and not working. On Sunday it cleared up, so finally I could operate. On 23 cm I worked **HB9SV, G3LTF, DF3RU, W2UHI, OE9ERC, DJ5MN, SM3AKW, K3HZO and K5JL - all with good signals. I heard GW3XYW, KD4LT and IK2MMB.**

Unfortunately strong gusty winds started and I had to close down at about 25 deg EL. There was not much activity, but good signals. The week before the Jan SW I started work on an W2IMU horn for 6 cm and managed to build and align it. It looks very nice and the SWR is virtually 1:1, while circularity is better than 0,7 dB on both ports. I suppose that it will be good enough. I made it for the same circularity sense as used on 23 and 13 cm. My 6 cm preamps were damaged from the lightning. One failed because of a blown 78L05 regulator, while the other had a damaged HEMT. After repairs for some unknown reason I measure NFs of about 1.3 dB at best! I investigated all possibilities, but cannot find the reason for the poor NFs. By now I have checked everything including the transverter and all seems to be fine. When I am again ready on this band, I will advertise on MOON-NET. Another thing, which is funny to me, is that I have to date only 2 QSL cards for 7 of my 6 cm QSOs! This is worse than the QSL return rate on 23 and 13 cm! So far I received QSLs only from VE1ALQ (nice QSL) and OE9ERC. Our postal service is VERY poor here, if anybody else sent me a QSL, I did not receive it. I feel bad for all in Eur, who lost their antennas during the violent storms. It happened to me also some 4 years ago during an unusual hailstorm. But I did not give up! The Dec SW was about the worst one I experienced, probably partly due to bad weather, and partly due to the holidays. Even here we had heavy thunderstorms so that on Saturday I could not operate. On 25 Dec I worked only 2 stations, **OZ6OL and IK2MMB** with good signals, and on the morning of 26 Dec I worked again only 2 stations, **KD5IUV (589/569) for initial #150 and K2UYH**. No other stations were heard. I am pleased with the new initial, closing the year with a round number.

#### K2UYH

I had a Y2K problem in Jan. I switched over to a new version of VK3UM's tacking program. This program works fine in 2000, but the pre-stored location for K2UYH was incorrect. I never checked it. As a result, I thought my JH0WJF sked was out of my moon widow and I did not show for this sked. Thanks to a comment from Klaus, I discovered the problem before my remaining skeds on the following day. With the dish on the moon, on 15 Jan, I easily worked RV4AQ for initial #621 on 70 cm. Unfortunately I heard nil in skeds with GM0ONN and KB0VUK. I later learned that KB0VUK was on, but on the wrong frequency. K6JEY telephoned to say that he would be on for his sked, but I heard nil. He called again about an hour later to tell me that he had a clock error and operated the wrong hour. In between I QSO'd at 2128 **OZ4MM (579/569)**, 2136 **DL1YMK (559/539)**, 2235 **RA3LE (559/559)**, 2251 **DL9NDD (569/569)** and 2319 **SM3AKW (559/559)**. The WX turned bad on Sunday and I decided it was prudent to tie down the dish rather than run with WA1JOF at 0100 on 17 Jun - sorry. I tried to arrange reskeds for next weekend, but we had snow and high winds, which made operation impossible. I hope the WX and snow will clear up for the Feb SW as I am looking forward to operating the SSB Contest. Tnx to KB2AH, I have switched from a 4 x to 6 x 7289 PA on 23 cm. This will give me a little more power the SSB Contest.

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## NETNEWS

### [G4RGK, DAVID DIBLEY](#)

**WD5AGO** planned to have his new dish up for the ARRL VHF SS, and to be active on 23 cm EME from EM26.

**DL8YHR** has a new e-mail address at:

### [DL8YR](#)

**K3HZO** has been busy during the holidays but worked I2MMB on 19 Dec for an initial. Harry is looking for a QSL from W0KJY.

**WA1JOF** has a flow indicator problem and is looking for info on a flow indicators for water-cooling 7289 amps with 2 tubes. His flow indicator spins, but when adding 2 or more tubes, it seems as though there is flow, but the indicator does not spin, any ideas?

**NU7Z** is almost ready to go on 5.7 GHz. A new horn and switches are installed. He has gained at least a dB.

**DL1YMK** is looking for skeds on 70 cm. Michael's grid JO31 and he is running 4 x 11.5 BV yagis and 1.5 kW.

**W5ZN** is temporarily down on 70 cm and 5.7 GHz EME.

**DL9KR** has been away on a skiing vacation. He has just finished a new homebrew xvtr and reports it is working well, Jan worked K6JEY and is looking for status info on K7LNP.

**TI2NA** current has no plans to be QRV on 70 cm EME, but reports that **TI5KD** is working on a 5 m dish for 23 and 70 cm operation.

**VE4MA** is working on 24 GHz EME. Barry now has a little power out, but still has a lot more to do.

**RV4AQ** is QRV on 70 cm and is looking for big stations to sked.

**K9BCT** heard SM3AKW and IK2MMB on 1296 in Jan.

**KU4F** is eager to get back on EME and is pouring concrete for a dish mount.

**K4AR** is QRV from EM76 in TN on 432 with 8 x 28H yagis, 1.5 kW PA and 0.25 dB NF LNA. Bert can be reached by e-mail at:

**K4AR**

**N3FA** is also QRV on 70 cm with 4 x 19 el RIW yagis and 1 kW. He can be reached by e-mail at:

**N3FA**

**W2UHI** worked on 1296 in Jan OZ6OL, SM3AKW and KD5IUV (big signal aka K5JL).

**F5FLN**'s antennas were damaged in the big Dec storm. He will not be QRV for about 3 months.

**RW1AW** is now QRV on 23 cm with a 4 m dish and 120 w from a GI7 tube. On 70 cm he added WB0GGM, K0RZ, HB9SV, RV4AQ, LX1DB and CT1DMK during Jan.

**AA5C** is still trying to put his 3 cm station back together. [After what?]

**VE6TA** worked AL7OB and PY5ZBU on 70 cm during Jan. Grant is using a .3 f/d dish and a single dipole feed.

**N2IQU** is now using a horn on 70 cm EME. The horn is working well. It is offset 2 deg from his 23 cm horn.

**CT1DMK** missed all his skeds due to a flashover in his PA.

**DF3RU** had a lot of ice on his antenna, but still had a good QSO with **K6JEY** in Jan. Karl heard nil from **N3FA** or **KB0VUK**.

**G4RGK** will not be on EME for next few weeks.

**K5WXN** heard **WB0GGM** during their sked, but did not complete a QSO.

**ON5OF** reports a lot of severe storm damage in France from winds reaching 225 kph.

**WA4OFS** lost his preamp during the SW.

**N4GJV** was QRV in Jan and worked **NC1I** and heard **W7CNK** and **K6JEY**.

**UA3PTW** QSO'd in Jan on 432 LX1DB.

**UA4API** added no new stations in Jan. He had high wind on 22/23 Jan.

**DK3WG** was active on 70 cm in Jan, but had only partials during his skeds - **K4AR** (M/-), **K6JEY** (M/-) and **KJ7F** (O/-). **KJ7F** disappeared during their sked, then Jurgen found broken lines in his array and has had to cancel remaining skeds until repairs can be made.

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## FOR SALE

**W1ZX** has for sale a **General Radio 1236 30 MHz IF Amplifier** for \$US150 + shipping (s), a **General Radio 1216A 30 MHz IF Amplifier** \$US60 + s, an **MFJ-784 Super DSP filter** \$US130 + s, **HP 415E SWR Meter - brown unit (later model)** \$US85 + s and **Noise Com Noise Diodes NC305**, glass package \$US33 +s. Call Willie at 301-645- 5584 between 2000-2300 EST, FAX 301-645-6853 24 hrs, or e-mail to:

**W1ZX**.

**DJ5MN** is considering 10 GHz EME and looking for information and the possible purchase of a high-power 3 cm TWTA. Bernhard can be reached by e-mail at:

## DJ5MN

**HB9BBD has the power supply for a GTE TWT 600 W 12-14 GHz TWTA. He also has some TH373s with socket available. This tube is good for 10 kW on 144 MHz. The tubes are originally packed, never opened and guaranteed unused. He hopes to be of assistance to some projects. Contact Dominique at e-mail:**

[HB9BBD](#).

**K9BCT has a VK3UM tracking board available for sale. He also asks if anyone have any info on the older Parabolic 23 cm xvtrs?**

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## TECHNICAL

**It has been sometime since we have had a feed design. This month we have K4QI's version of the classic dual dipole feed optimized for a .45 f/d dish see Russ' write up and diagram at the end of this NL.**



### 432 MHz Dish Feed System

by K4QI

The feed system was derived from a NEC analysis attempting to design a dual feed with identical patterns in both E and H planes and a 10 dB illumination taper for a F/D of .45. NEC indicated that 2 dipoles spaced 0.43 wavelength at 0.25 wavelength above the a square reflector 0.65 wavelength on a side would produce such a result. A prototype was built and measured and was found to produce results similar to the NEC prediction.

From the feed point of the antenna, the impedance is  $50 + j0$  ohms. Going through the 1:4 balun, the impedance transforms to  $200 + j0$  meaning that each phasing line must present  $400 + j0$ . As an approximation, the phasing lines were constructed for an impedance of the geometric mean of 400 and 73 ohms or 173 ohms. Because the phasing lines are shorter than 0.25 wavelengths, the impedance presented to the dipole is approximately  $78 - j35$  ohm. The real part is very close to the desired value but the reactive component must be tuned out. The susceptance equivalency of this impedance presents a parallel capacitance that can be tuned out by a parallel inductance. This inductance is formed by a

"hair pin" built into the support for the dipoles.

**Sliding shorts are provided in each dipole support and at the base of the 4:1 slot balun. By adjusting these shorts, the return loss can be trimmed to well below 30 dB but only over a relative over a narrow band. A good compromise is probably around 26 dB, which will give a couple MHz of bandwidth.**

**With the feed point on the rear of the reflector, a relay and preamp enclosure can be conveniently built in this location. Dimensions are given in inches. With the tuning flexibility of the sliding shorts, dimensions should not be particularly critical within reason. This is especially true of element diameters.**

## **FINAL**

**I have received some question on the status of the hardcopy post edition of the NL versus the e-mail/WEB NL. The printed NL is still very much alive. There are still stations that prefer to receive the NL in this format, although the numbers are down. At the peak I mailed just under 300 NL. I am now mailing a little less than 100 NLs.**

**? I have not received one suggestion for changes to the proposed 2000 SW dates, since the comments in last month's NL. I will thus assume that the dates will remain as indicated on G3SEK's 2000 EME Calendar, which appeared in the Dec NL.**

**? Since last month, we have also talked to Don, PY5ZBU on the telephone. Don reports that preparations for EME2000 in Rio are moving along well. There are already more than 70 pre- registrants. He is a bit concerned that he has not received many papers for the conference digest. I think I convinced him that this is normal, and that most people wait to the last minute to get their papers in. Don wants to make EME2000 the best possible and is looking for ideas on ways to attract the greatest attendance. He is going to look into tours that can be associated with the conference for those who want to combine the conference with a family vacation. He is also going to look into reduced airfares, possibly from selected cities.**

**? Don't forget the 1296 SSB Contest. Hopefully the WX will cooperate and all will have a great "fun" time in this event. I hope to hear you all off the moon.**

**73, Al - K2UYH**





# Winner of the EME SSB Contest.

Artwork borrowed from a SM6EUP QSL card.

## EME schedules

### FEB 12

Time	432.040	432.045	432.055	432.060
0300z	JH0WJF-K2UYH			
1100z	OK1KIR-VK4AFL			
1130z	OK1KIR-JA8IAD	DL7APV-VK4AFL		
1200z	OK1KIR-JH0WJF	DL7APV-IK2EAD		
1230z	OK1KIR-JA3SGR	DL7APV-UA4API		
1300z	CT1DMK-OK1KIR			
1330z	GMOONN-OK1KIR			
1800z	EA3DXU-DL1YMK			
1830z	K5WXN -EA3DXU			
1900z	OK1KIR-UA3PTW	WBOGGM-DJ3FI	EA3DXU-UA4API	WE2Y -PY5ZBU
1930z	OK1KIR-UA4API	WBOGGM-SM3AKW		PY5ZBU-RW1AW
2000z	OK1KIR-UT3LL	WBOGGM-RW1AW	PY5ZBU-DL7APV	WE2Y -LX1DB
2030z		WBOGGM-CT1DMK	KB0VUK-K2UYH	
2100z	K6JEY -DK3WG	VE6TA -OK1KIR	WBOGGM-ON4KNG	W8MQW -EA3DXU
2130z	WB0GGM-OK1KIR	K6JEY -DL9NDD	W7SZ -DL1YMK	KAORYT-EA3DXU
2200z	W7SZ -OK1KIR	WBOGGM-EA3DXU	K6JEY -DL1YMK	
2230z	K6JEY -OK1KIR	AL7OB -WBOGGM	W7SZ -EA3DXU	
2330z	K2UYH -GMOONN		PY5ZBU-DL1YMK	

### FEB 13

Time	432.040
0330z	K6JEY -WE2Y
0500z	W7SZ -WBOGGM
0530z	VE6TA -WBOGGM
2300z	AL7OB -OK1KIR

### FEB 13

Time	1296.050	1296.060
0430z	JA8ERE-W5LUA	
0500z	JF3HUC-W5LUA	
1230z	OK1KIR-JA8IAD	
1300z	OK1KIR-JF3HUC	

1330z	OK1KIR-I0UGB
1400z	OK1KIR-IK2MMB
1730z	DD1XF -OH2DG
1800z	F5AQC -OH2DG
1830z	OK1KIR-9H1ES
1900z	K3HZO -9H1ES
1930z	LU6DW -OK1KIR
2000z	W1ZX -OK1KIR
2030z	WA9FWD-K3HZO
2100z	K9ZZH -K3HZO
2130z	PY5ZBU-DF3RU
	WA9OUU-OK1KIR
	W1QC -OK1KIR
	WA1JOF-OZ4MM

## Most recent Schedules from Klaus, DL4EBY

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## Lunar Calendar for 1999 prepared by G3SEK

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## Netnotes by K1RQG

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## Leave Contest Info or Comments to Allen Here

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